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OUT-OF-OPERATING ROOM AIRWAY MANAGEMENT

1. PURPOSE: This Veterans Health Administration (VHA) Directive addresses the appropriate competencies of those who perform urgent and emergent airway management outside of VHA facility operating rooms, and the confirmation of successful endotracheal tube placement through the use of devices such as carbon dioxide (CO₂) monitors or esophageal detection devices, in conjunction with auscultation.

2. BACKGROUND

a. A survey of Department of Veterans Affairs (VA) medical centers by the National Center for Patient Safety showed emergency airway management is often required outside of an operating room. It is critical that the appropriate individuals who are trained and qualified to perform airway management respond to the needs of the patient. In view of this fact, competence in airway management must be demonstrated and cannot be assumed based solely on job title, even for physicians (see Att. A).

b. Failure to recognize esophageal intubation can have disastrous results. Analysis of the medical literature and root cause analyses (RCAs) confirm that these incidents may result in brain damage or death due to unrecognized esophageal intubation or other failure to intubate the trachea and appropriately ventilate the patient (see subpars. 5g and 5h).

c. Inexpensive and effective devices can confirm endotracheal tube placement. Portable capnography, esophageal detection devices (EDD) including esophageal bulbs and syringes, and colorimetric devices that measure exhaled CO₂, are all effective when used properly and combined with auscultation.

d. Use of devices to confirm endotracheal tube placement with clinical techniques such as auscultation is supported by the American College of Emergency Physicians, the American Society of Anesthesiologists, the National Association of Emergency Medical Service (EMS) Physicians, and the 2004 American Heart Association's (AHA) Handbook of Emergency Cardiovascular Care (see subpars. 5b, 5c, 5d, and 5e). Use of devices to confirm endotracheal tube placement does not supersede or preclude other aspects of appropriate care such as the use of X-ray imaging to verify the position of the endotracheal tube and to ensure that both lungs, rather than just the right lung, are ventilated.

3. POLICY: It is VHA policy that each inpatient facility must have a written policy in effect by December 1, 2005, regarding out-of-operating room airway management and ensuring the competency of staff performing this task.

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4. ACTION

a. **Veterans Integrated Service Network (VISN) Directors.** VISN Directors are responsible for ensuring that all facilities have a local policy in place by December 1, 2005, regarding out-of-operating room Airway Management. **NOTE:** *An example of facility-level policy can be found at the website for National Center for Patient Safety at: <http://vaww.ncps.med.va.gov/airwaymgmt/>* The specifics of the policies for out-of-operating room airway management may vary depending on the size of the facility, staffing, and other considerations.

b. **Facility Directors.** Facility Directors are responsible for ensuring that the local policy for out-of-operating room airway management is in effect by December 1, 2005, and contains:

(1) A process for confirming the competence of those who perform airway management (see Att. A), including:

(a) Evidence of competency for those individuals who perform airway management. Although the decision on how to incorporate this information into setting specific clinical privileges or a scope of practice is made at the local facility level, it must be made in accordance with VHA policy and accreditation standards.

(b) The requirements for competency listed in Attachment A and includes: cognitive skills associated with intubation; procedural skills with bag and mask ventilation; maintenance of airway; and endotracheal intubation. Appropriately mentored clinical experience is required. **NOTE:** *Advanced Cardiac Life Support (ACLS) certification is not adequate.*

(c) A provision that clinical staff whose normal duties include the performance of multiple intubations and airway management on a regular basis may be deemed competent and granted specific privileges for airway management based upon demonstrated training and experience, including the periodic assessment of current competency. This should be accomplished as part of the re-privileging process and in accordance with the specifics of Attachment A.

(2) A requirement for using a device or devices to confirm tube placement in concert with auscultation. Auscultation alone is not sufficient evidence of correct tube placement. Devices that can confirm the tube placement (e.g., portable capnography, esophageal bulbs, syringes, or colorimetric devices) must be used in conjunction with auscultation of breath sounds in all cases of airway management. Use of devices to confirm endotracheal tube placement does not supersede or preclude other aspects of appropriate care such as the use of X-ray imaging to verify the position of the endotracheal tube and to ensure that both lungs, rather than just the right lung, are ventilated.

(3) Information regarding the use of EDD and end-tidal CO₂ (ETCO₂) colorimetric devices. When used in combination with auscultation, these devices are highly effective with excellent sensitivity and specificity for identifying appropriate endotracheal tube placements. **NOTE:** *These devices have limitations that need to be considered in the development of local policies.*

(a) ETCO₂ detectors may provide a false indication of esophageal intubation in cardiac arrest patients because of poor systemic perfusion that delivers little CO₂ to the lungs for exchange, or in cases of florid pulmonary edema. EDD, on the other hand, may provide a false reading of esophageal intubation in obese patients or those with copious pulmonary secretions.

(b) Local policy needs to allow for the appropriate use of both devices in a complementary fashion depending upon the clinical situation, along with auscultation. For example, the American Heart Association's 2004 Handbook of Cardiovascular Care recommends the use of a syringe or bulb as an initial check in cases of cardiac arrest, and the use of a colorimetric device if there is a perfusing rhythm (see subpar. 5b).

(4) Provisions that individuals who are privileged to perform airway management are included in provider-specific data analysis, which compares a provider's specific data in this area against aggregate data from providers with comparable clinical privileges. Periodic review of both aggregate and provider-specific data concerning intubation and airway management is the responsibility of the executive committee of the medical staff or similar designated body.

(5) A statement that if community paramedics are used to respond to emergencies, a waiver request must be submitted to the Office of Patient Care Services (11), VA Central Office. *NOTE: The specific requirement can be found in M-2, Part IV, Chapter 1, Section 1.03, paragraph (3) entitled "Waiver."*

(6) A statement mandating resident staff or other clinical trainees are to be considered in compliance with this policy if they perform endotracheal intubation and airway management under the supervision of a licensed independent practitioner who is appropriately privileged for airway management, or an Advance Practice Nurse or Certified Registered Nurse Anesthetist (CRNA) who has a scope of practice that includes airway management as specified in subparagraphs 4b(1)(a), 4b(1)(b), and 4b(1)(c). Trainees performing intubation and airway management in an unsupervised setting must meet the requirements for demonstrated knowledge and clinical competency consistent with the requirements for staff clinicians.

(7) Provisions for out-of-operating room airway management that reflect the specific practice settings and circumstances of that facility, including an assessment of the number and type of clinical staff whose expected duties would include endotracheal intubation and airway management in a non-operating room setting.

(8) A statement that the policy only addresses emergent and urgent situations out of the operating room, such as a "code" where there is current or anticipated respiratory distress. The response may involve bag and mask ventilation, oral or nasopharyngeal airway, tracheal intubation, or surgical airway. *NOTE: Excluded from this Directive are airway management within the OR and non-urgent airway management and oxygenation of patients.*

(9) A statement that in extraordinary circumstances where an individual is not available with the demonstrated competency in airway management, per the requirements of this Directive, clinicians may exercise their judgment in the appropriate response with the overarching goal being the care and safety of the patient. *NOTE: If this situation should occur, facilities must*

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conduct an analysis as to why this vulnerability existed and initiate appropriate systems fixes to minimize a repeat occurrence.

c. **Exception for Directors of Facilities Providing Only Outpatient Care.** Directors of facilities providing only outpatient care are responsible for ensuring that:

(1) The standard for airway management is through community assistance (such as calling 911). No waiver request is needed for facilities that only have outpatient services.

(2) If the facility plans to perform emergency airway management, a policy to address the competency of staff performing such procedures is provided and this policy is consistent with the standards in this Directive.

5. REFERENCES

a. VHA Manual M-2, Part IV, Chapter 1, Paragraph 1.03 (3).
http://www1.va.gov/vhapublications/ViewPublication.asp?pub_ID=831)

b. American Heart Association, "Placement: Secondary Confirmation," Handbook of Emergency Cardiovascular Care. p. 78, updated 2004.

c. American College of Emergency Physicians, Policy #400307, Verification of Endotracheal Tube Placement, Approved October 2001.
<http://www.acep.org/webportal/PracticeResources/PolicyStatements/PracticeManagement/VerificationofEndotrachealTubePlacement.htm>

d. American Society of Anesthesiologists, Practice Guidelines for Management of the Difficult Airway, Anesthesiology. 98:5, May 2003.
<http://www.asahq.org/publicationsAndServices/Difficult%20Airway.pdf>

e. National Association of EMS Physicians, Position Paper, Verification of Endotracheal Tube Placement Following Intubation, Approved March 1999.
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g. Caplan, R., K. Posner, R. Ward, et al "Adverse Events in Anesthesia: A Closed Claims Analysis," Anesthesiology 72: 828-833, 1990.

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j. Bishop MJ, Michalowski P, et al. "Recertification of Respiratory Therapists' Intubation Skills One Year After Initial Training: An Analysis of Skill Retention and Retraining," Respiratory Care. 46(3): 234-237, 2001.

k. VHA Handbook 1100.19 Credentialing And Privileging.
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6. FOLLOW-UP RESPONSIBILITIES: The Office of Patient Care Services (11) is responsible for the contents of this Directive. Questions may be addressed to the Office of the National Director for Anesthesia at (206) 764-2574.

7. RESCISSION: None. This VHA Directive expires August 31, 2010.

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ATTACHMENT A

OUT-OF-OPERATING ROOM AIRWAY MANAGEMENT
COMPETENCY ASSESSMENT

1. The Chief of Anesthesia, or another clinician with a sufficient knowledge base, is responsible for assessing and establishing competency. If there is no physician at the Department of Veterans Affairs (VA) facility that is appropriately qualified to conduct the assessments, consider partnering with another facility to oversee the competency assessments and training of staff, or relying upon another co-located facility or community response for airway management.
2. Since it is difficult to have anesthesia staff on station on nights, weekends, and holidays, other clinical staff who may currently possess competency or can be made competent to perform airway management may need to be considered. For example, facilities have used appropriately qualified emergency room physicians, respiratory therapists, nurses, pulmonologists, and critical care physicians among others, for airway management. The professional job title should not rule out certain groups of clinicians for consideration.

3. Development of Initial Competency for Privileging or Establishing a Scope of Practice.

Clinicians who will be performing out-of-operating room airway management must demonstrate the subject matter expertise, and technical and procedural skills listed in subparagraphs 3a, 3b, and 3c to establish competency. Following demonstrated competency, these clinicians may be granted privileges or a scope of practice to perform this procedure.

a. **Subject-Matter Expertise.** The Chief of Anesthesia, or designee, is responsible for developing the specific subject-matter content and establishing the criteria that demonstrates the required knowledge and expertise in the following areas:

- (1) Knowledge of the major anatomic structures of the airway.
- (2) Ability to formulate and verbalize an appropriate alternative plan, if initial attempts at intubation are unsuccessful.
- (3) Knowledge of the indications and contraindications for pharmaceutical agents, especially muscle relaxants, for use in airway management. *NOTE: In general, muscle relaxants should only be ordered by those that prescribe these drugs on a regular basis, and who are familiar with their risks and properties.*

b. **Procedural Skills.** The time and practice necessary to attain procedural and technical competency in endotracheal intubations is highly variable.

- (1) A typical trainee without prior experience generally requires more supervised attempted endotracheal intubations than those with the prior experience needed to achieve competency.

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(2) The minimum procedural skills that must be demonstrated to the Chief of Anesthesia or designee are demonstrated competence in:

(a) Successful (i.e., without complications) endotracheal intubations with an actual patient, not a mannequin.

(b) Successful (i.e., without complications) cases of ventilating an unconscious patient using a bag and mask and either an oral or nasopharyngeal airway.

(c) The use of alternative methods of intubation that are in practice at each hospital with an actual patient, not a mannequin. Examples may include use of the Laryngeal Mask Airway (LMA®), Combitube®, or other means.

NOTE: Requirements found in subparagraphs 3b(2)(a), 3b(2)(b), and 3b(2)(c) may be met with the same patients and at the same time.

(d) For non-licensed independent practitioners (non-LIPs), subparagraphs 3b(2)(a), 3b(2)(b), and 3b(2)(c) need to be applied to the establishment of scope of practice and the annual competency assessments.

NOTE: Non-LIPs that may be appropriate include, but are not limited to, nurses from different settings such as the Intensive Care Unit (ICU) and respiratory therapists.

c. Ongoing Demonstration of Competency for Reappraisal, Renewal of Privileges, and Scope of Practice

(1) Clinicians who have previously been determined competent for endotracheal intubation and airway management must be reassessed for continued competency at the time of reappraisal for privileging (or for the renewal of scope of practice in the case of non-LIP clinicians). This assessment needs to include:

(a) Demonstrated proficiency in airway management using all three modalities identified in subparagraphs 3b(2)(a), 3b(2)(b), and 3b(2)(c); and

(b) Assessment of training and experience in the period since previous reappraisal and privileging.

(c) Review of relevant provider specific data analyses on airway management.

(2) It is recognized that, for clinicians with established intubation skills, including the use of bronchoscopic assistance, there may not be an opportunity to demonstrate the use of alternatives to intubation such as LMA®, Combitube® techniques. For these individuals, demonstration of competency, knowledge, and understanding of these alternative techniques to an appropriate clinical mentor is sufficient.

4. Grandfathered Competency Status. *NOTE: This option is only available until December 1, 2005. Beginning December 2, 2005 forward, all clinicians must meet the requirements under paragraph 3. To allow for a transition period under this new policy, grandfathered competency status may be granted to individuals who meet the requirements outlined in the following:*

a. Individuals may be deemed competent and granted specific privileges or scope of practice for airway management if they can demonstrate they have:

(1) Performed successful (i.e., without complication) endotracheal intubations in the preceding year with an actual patient, not a mannequin.

(2) Performed maintenance of a patent airway on an unconscious patient using a bag and mask and either an oral or nasopharyngeal airway.

(3) The ability to ventilate an actual patient, not a mannequin, using the alternative methods of intubation that are in practice at each hospital (see subpar. 3a(2); examples may include use of the LMA®, Combitube®, or other).

b. Individuals may be deemed competent and granted specific privileges or scope of practice for airway management if they can demonstrate that they possess the requisite subject matter expertise.

NOTE: Requirements in subparagraphs 4a(1), 4a(2) and 4a(3), may be met with the same patients and at the same time.

c. These individuals are subject to the ongoing requirements for competency as outlined in subparagraph 3c.